AMENDMENTS TO THE CLAIMS

1. (currently amended) A sensor for authenticity identification of luminescent signets on ~~documents,~~ documents comprising:

~~in which the~~ a signet that is illuminated as a fluorescent authenticity feature, with a specific excitation wavelength and may respond at a different wavelength, with ~~the~~ a response wavelength being detected and evaluated by a radiation receiver,

wherein a focused beam, which is emitted from a beam source, is converted by a focusing optics in such a manner that a scanning line, which is approximately in the form of a bar, is projected on ~~the surface of the document~~ a surface of a document to be investigated, which causes the signet, which is arranged on the document, to fluoresce at least in one subregion ~~and the~~ and a fluorescence signal produced in this way is emitted from the authenticity feature and passed via detection optics to an evaluation unit, which evaluates the fluorescence signal; ~~and~~

wherein the fluorescent authenticity feature is illuminated at the excitation wavelength with an excitation pulse and a response pulse following the excitation pulse is detected with a defined time delay,

wherein in order to identify the signet on the document, the signet is equipped, at least in subregions, with a pigment which can be detected using an up-conversion effect, and the sensor is adapted to use the up-conversion effect, wherein the specific excitation wavelength is longer than the response wavelength,

wherein the sensor is adapted for authenticity identification of luminescent signets on documents transported in a transport direction relatively to the scanning line at high speed, and

wherein the high speed in the transport direction varies from 0 to 4 m/s.

2. (currently amended) The sensor as claimed in claim 1, wherein the document is moved ~~past~~ relative to the measurement window approximately at right angles to the longitudinal axis of the scanning line.

3.-5. (canceled)

6. (currently amended) The ~~reality feature for detection using a~~ sensor as claimed in ~~claim 5~~ claim 1, wherein the emission wavelength of the authenticity feature is at the same wavelength

as the excitation wave, and wherein the pulse response follows the excitation pulse with a time delay.

7. (currently amended) The sensor as claimed in ~~one of claims 3 to 6~~ claim 1, wherein the pigments are added directly to an applied solution, to an applied paint, to the adhesive or to the ~~paper~~ document.

8. (currently amended) The sensor as claimed in ~~one of claims 1 to 7~~ claim 1, wherein position-resolved detection is carried out in the transport direction.

9. (previously presented) The sensor as claimed in claim 8, wherein the sensor is formed as a two-band sensor, in which the fluorescent authenticity feature is illuminated once and in which two different spectral bands are evaluated.

10. (previously presented) The sensor as claimed in claim 9, wherein an additional sensor is integrated in the form of a UV luminescence sensor, in which the fluorescent authenticity feature is illuminated with UV light of a different wavelength and wherein the luminescence signal is detected in a further different spectral band.

11. (previously presented) The sensor as claimed in claim 10, wherein an additional object detector is used, which indicates to the sensor when the signet starts and when it ends.

12. (previously presented) The sensor as claimed in claim 11, wherein in order to identify the signet on a document, the signet is equipped, at least in subregions, with a pigment having a fast rise time and a fast decay time in order of magnitude of 0.1 ms and the response pulse following the excitation pulse is detected with a defined time delay in the order of magnitude of 0.1 ms.

13. (currently amended) The sensor as claimed in ~~one of claims 1 to 12~~ claim 1, wherein a laser wavelength of 980 ± 10 nm is used for excitation.

14. (currently amended) The sensor as claimed in ~~one of claims 1 to 12~~ claim 1, wherein a laser wavelength of 850 ± 10 nm is used for excitation.

15. (currently amended) The sensor as claimed in ~~one of claims 1 to 14~~ claim 1, wherein the laser line produced using cylindrical lenses has an illumination intensity whose maximum occurs at the center of the line.

16. (currently amended) The sensor as claimed in ~~one of claims 1 to 15~~ claim 1, wherein the laser line is produced using an aspherical cylindrical lens.

17. (currently amended) The sensor as claimed in ~~one of claims 1 to 15~~ claim 1, wherein the laser line is produced using a sinusoidal lens surface.

18. (currently amended) The sensor as claimed in ~~one of claims 1 to 15~~ claim 1, wherein, in order to compensate for the sensitivity variation of the receiver, the illumination intensity of the laser line is increased slightly at the edge of the laser line.

19. (currently amended) The sensor as claimed in one of claim 18, wherein a reflection cone is arranged in front of the electronic evaluation unit for beam intensification which is in the form of a funnel-shaped or cylindrical [[a]] transparent solid body.

20. (currently amended) The sensor as claimed in claim 19, wherein a photomultiplier having a detection surface ~~said surface~~ corresponding approximately to the outlet surface of the reflection cone[[,]] is arranged immediately behind the reflection cone.

21. (currently amended) The sensor as claimed in ~~one of claims 1 to 20~~ claim 1, wherein only a portion of the scanning line ~~(9)~~ is in each case imaged on the receiver ~~(18)~~ via a respective lens ~~(20, 20'') (Figure 5)~~, with these different imaged parts of the scanning line overlapping one another.

22. (currently amended) The sensor as claimed in claim 21, wherein the lenses ~~(20, 20'')~~ are arranged as a stack, resting closely against one another, at ~~the~~ a window (8, 8') of ~~the~~ a sensor housing ~~(1)~~.

23. (currently amended) The sensor as claimed in claim 21 or 22, wherein the light from each lens ~~(20, 20'')~~ is passed through a respective reflection cone ~~(31)~~ and falls on a respective receiver ~~(18)~~.

24. (currently amended) The sensor as claimed in ~~one of claims 1 to 23~~ claim 1, wherein the transmitting and receiving beams are joined together via a dichroic beam splitter, and leave ~~the~~ a sensor housing together.

25. (previously presented) The sensor as claimed in claim 6, wherein the external light is suppressed by evaluation only those pulsed florescent signals which are received with the pulse recitation frequency of the pulsed illuminate.

26. (previously presented) The sensor as claimed in claim 7, wherein the external light is further suppressed by filtering the received signal by means of an electronic high-pass filter.

27. (previously presented) The sensor as claimed in claim 8, wherein the identification confidence of the authenticity identification is increased by identifying the fluorescent authenticity feature during two or more periods of a sequence of pulses.

28. (currently amended) The sensor as claimed in claim 10, wherein the UV light is emitted ~~form~~ from an UV-LED at a wavelength of 370nm.

29. (previously presented) The sensor as claimed in claim 11, wherein the signet detector is formed as an optical barrier.

30. (previously presented) The sensor as claimed in claim 19 wherein the reflection cone is a combination of cylindrical lens and the funnel shaped transparent solid body.

31 (New) The sensor as claimed in claim 1, wherein the high speed in the transport direction varies and takes any non-zero value in the interval from 0 to 4 m/s.

32 (New) The sensor as claimed in claim 1, wherein the high speed in the transfer direction varies up to 4 m/s.

33. (New) The sensor as claimed in claim 1, wherein the high speed in the transport direction varies from 1.5 m/s to 4 m/s.

34. (New) The sensor as claimed is claim 1, wherein the high speed in the transport direction is approximately 4 m/s.

35. (New) The sensor as claimed in claim 1, wherein the sensor is adapted for detection of a signet having a dimension smaller than the size of the scanning line, such that the signet is detected anywhere within the scanning line.

36. (New) The sensor as claimed in claim 35, wherein the dimension of the signet is approximately 5 x 5 mm

37 (New) The sensor as claimed in claim 35, wherein the scanning line has a size of up to 70 mm.

38 (New) The sensor as claimed in claim 8, wherein the signal is evaluated by sampling of the signal once a first time window of the response pulse duration has elapsed and sampling of the signal once a second time window of the response pulse duration has elapsed wherein the sampled signal of the second time window is compared to the sampled signal of the first time window.